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1. (Amended) A method of growing semiconductor epitaxial layers on a substrate comprising the steps of:

providing a system which includes a substrate,

providing at least a first growth solution and optionally one or more further growth solutions, and

(i) exposing the substrate to the first growth solution, the growth solution being under a supersaturated condition such that a first layer grows on the surface of the substrate; and

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(ii) optionally exposing the substrate to one or more further growth solutions, the further growth solutions being under a supersaturated condition such that one or more further layers grow on the surface of the first layer; and

(iii) varying the pressure of the system to change the degree of supersaturation of the first growth solution or one or more further growth solutions to affect the growth of the first layer or one or more further layers.

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10. (Amended) A method according to claim 1 wherein said semiconductor epitaxial layers comprise a system which includes III-V epitaxial layers.